

New Species and new Nomenclature in the American Acronictinae (Lepidoptera: Noctuidae)

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Abstract. Described as new species are *Acronicta sinescripta* from South Carolina, Louisiana, and Florida; *A. kendallorum* from Chihuahua, Mexico; *A. perblanda* from the region between North Carolina and Missouri southward to northern Florida and Louisiana; and *Cryphia cyanympha* from South Carolina, northern Florida, and eastern Texas. *C. cyanympha* is the only member of the tribe Bryophilini definitely known from eastern North America. *A. kendallorum* was reared from larvae on *Froelichia arizonica* (Amaranthaceae); *A. perblanda* is associated with cypress swamps, although it has not been reared; and *C. cyanympha* is related to a Caribbean group believed to feed on lichens of the genus *Usnea*. The host of *A. sinescripta* is unknown. *A. perblanda* is divergent and only doubtfully referred to the genus *Acronicta*. *Agriopodes jucundella* Dyar and *Bryolymnia huasteca* Schaus from Puerto Rico, which appear closely related to *C. cyanympha*, are transferred to the genus *Cryphia* Hübner and considered synonyms, with *jucundella* being the older name. *Agriopodes teratophora* (Herrich-Schäffer) is transferred to the genus *Anterastria* Sugi in the Acontiinae.

Introduction

The three species from the southeastern United States treated in this paper have been known and recognized as undescribed for nearly 20 years, and questions concerning their identity have arisen repeatedly. It is time that they were named. I include also a new species of *Acronicta* from northern Mexico that might eventually be found to occur in the border region of the United States. Three of the new species are in the tribe Acronictini and placed in the genus *Acronicta* Ochsenheimer, although one of them is referred to this genus somewhat doubtfully, as I explain later. The fourth, a species of *Cryphia* Hübner, belongs to the tribe Bryophilini as currently understood. This moth, *Cryphia cyanympha*, n. sp., is particularly interesting because it is the only bryophiline definitely known to be present in eastern North America, belongs to a small group otherwise known only from the Greater Antilles, and is almost certainly a lichen feeder. Although *Cerma galva* Strecker, 1898 (= *Cryphia galva*, Franclemont and Todd, in Hodges, et al., 1983), was described from Clyde, Wayne County, New York, its type

has since been identified as a specimen of the western *Cryphia olivacea* (Smith, 1891) (R. W. Poole, pers. comm.), a species not otherwise known from the eastern United States. Strecker evidently cited a false type locality.

My assignment of *cyanympa* to the genus *Cryphia* followed a review of the species formerly listed under *Agriopodes* Hampson in North American lists, as well as a cursory investigation of *Bryolymnia* Hampson, and of species formerly referred to *Bryophila* Treitschke. It is in agreement with the arrangement of Franclemont and Todd (in Hodges et al. 1983: 136), in which species thought to be related to *Agriopodes fallax* (Herrich-Schäffer), the type species of *Agriopodes* (Figs. 31, 32), were left in that genus, and the remainder were combined with species transferred from *Cerma* Hübner to form the American section of the genus *Cryphia* (formerly *Bryophila* in much of the Old World literature) (Acronictinae: Bryophilini). This has nothing to do with the *Cryphia* of previous North American literature, in which the name was misplaced in the Acontiinae as a result of a misunderstanding of the type species. Those moths are now in the genus *Hyperstrotia* Hampson. The type species of *Cryphia* is the European *C. deceptricula* (Hübner). It is still uncertain whether *C. cyanympa* and its Caribbean relatives should be regarded as congeneric with any other species assigned to the Bryophilini, but within the present classification *Cryphia* is where they fit best. A thorough reevaluation of *Cryphia*, *Bryophila*, *Bryoleuca* Hampson, and other related Old World genera and their type species is needed but beyond the scope of the present paper.

It seems clear that the North American species long known as *Agriopodes teratophora* (Herrich-Schäffer) (= *Bryophila teratophora* Herrich-Schäffer, [1854]) is misplaced and belongs in the genus *Anterastria* Sugi, 1982. This generic name was proposed for a closely related Japanese counterpart of *teratophora* originally described as *Erastria atrata* Butler, 1881 (Sugi, in Inoue et al., 1982, vol. 1:818; vol. 2:383, pl. 197, fig. 57). The American species therefore becomes *Anterastria teratophora* (Herrich-Schäffer, 1854), NEW COMBINATION, and it should be transferred to the Acontiinae, tribe Eustrotiini, following Sugi's arrangement. That would place it somewhere near *Lithacodia* Hübner in the North American fauna. However, the male genitalia of both species of *Anterastria* are disconcertingly similar to those of species of *Cryphia* treated in this paper, so much so that one might even be led to consider them congeneric on that basis. If the reassignment of *Anterastria* to the Acontiinae is correct, the resemblance to *Cryphia* must be a result of convergence. *Anterastria teratophora* was illustrated most recently by Covell (1984: pl. 25, fig. 19).

***Acronicta sinescrpta* Ferguson, new species**

Diagnosis. This is a southeastern species that most closely resembles *Acronicta oblinita* (J. E. Smith), especially the evenly gray, almost unmarked form *insolita*

Grote; but it differs in the configuration of dark markings associated with the reniform spot, the regular rather than dentate postmedial line (if visible), the grayer hindwings (white in both sexes of *oblinita*), and the absence of dark terminal dots along the outer margin of the hindwing. Also, on the underside, the forewing is much darker than the hindwing in *sinescripta*, almost as pale in *oblinita*, and both wings beneath lack the discal spot present in *oblinita*. Another species with which *sinescripta* could be confused is *A. lanceolaria* Grote, which does have traces of similar dark markings associated with the reniform. However, *lanceolaria* is larger, has a more produced and pointed apex on the forewing, lacks the basal streak and other dark forewing markings of *sinescripta*, often has a fairly prominent, sinuous, pale postmedial line, especially in females and, like *oblinita*, an almost white hindwing. *A. sinescripta* may be distinguished from *A. arioch* Strecker, which looks like a large, pale form of *oblinita*, by essentially the same differences that separate it from the latter species.

Further description. About same size and shape as *A. oblinita*. Male antenna laminate, finely setose, whitish-scaled dorsally, tapering to an almost simple tip; female antenna filiform, finely ciliate ventrally, weakly whitish-scaled dorsally; palpus slender, about as long as distance across front diagonally in both sexes, white ventrally, grayish or mixed black and white apically, black dorsally beneath eye; front narrower than eye in male, about as wide as eye in female, almost flat, with mixture of white and dark-gray or blackish scales; eye bordered posteriorly by a few dark scales but without heavy black border; vestiture of body light gray; head and thorax lightly streaked with darker scales and appearing slightly darker than abdomen; tegula and patagia similarly gray, unmarked; legs normal, stoutish, gray, unmarked; hindtibia somewhat swollen. *A. sinescripta*, *oblinita*, and others of this group lack the dark facial band comprised of black contiguous areas of front, palpi, tegulae, and eyes that create the black-masked appearance of most *Acronicta* species.

Wings elongated like those of *oblinita*, but forewing a little less pointed, its shape intermediate between those of *oblinita* and *lithospila* Grote. Upperside of forewing uniformly bluish gray, resulting from even mixture of whitish and gray scales; almost unmarked, although variable vestiges of pattern are present, as follows: thin, black, basal dash on cubital stem running about 6 mm toward middle of wing; thin, weak, black longitudinal streak running through outer end of cell, appearing to pass through and be interrupted by reniform spot, although reniform not really visible; this streak, usually dividing to form vaguely defined, longitudinal cell at that point, then continues as a faint, dark line on M_2 toward outer margin; other short, faint, black dashes may occur in outer third of forewing on R_4 , M_1 , and Cu_2 . Some specimens show traces of a postmedial line that is evenly curved, subparallel to and quite near outer margin; others show a wide, very diffuse, dark transverse band through postmedial area of forewing or both wings. Hindwing whitish, variably dusted with gray scales, especially toward apex and costa. Fringes concolorous with wings or slightly paler. Underside of forewing gray, darkest mesially, usually paler near costa and in outer third. Underside of hindwing about like upperside, darkest toward costa. Length of forewing: holotype, 19 mm; other ♂♂, 18-19 mm. Allotype, 20 mm; other ♀♀, 19-21 mm.

Male genitalia (Figs. 16, 17). Valve broad, rounded, simple, with clasper consisting mainly of one large, stout process that does not quite reach costa;

uncus normal but delicate; juxta partly spinulate; vesica with cluster of about 14 medium-sized cornuti with fine, attenuated points.

Female genitalia (Fig. 29). These were compared with genitalia of *oblinita* and *lepusculina* Guenée, representatives of two groups to which I thought *sinescripta* might be related. It differs obviously from *oblinita* in having more elongated, pear-shaped bursa copulatrix, nearly twice as long as that of *oblinita*; longer, much more swollen, sclerotized and rugose ductus bursae; and more abruptly and deeply cleft posterior margin on eighth sternite. Ductus bursae adjoins corpus bursae apically, and entire bursa copulatrix and eighth sternite are of different form, the corpus bursae long and slender posteriorly, ending in zone of heavy sclerotization where it meets the very short ductus bursae, and the eighth sternite unnotched but with wide, shallow concavity on posterior margin. On basis of female genitalia, *sinescripta* would appear more closely related to *oblinita* than to *lepusculina*.

Types. Holotype ♂, 4.2 mi. NE of Abita Springs, St. Tammany Parish, Louisiana, 8 April 1984, V. A. Brou (Fig. 1). Allotype ♀, same locality and collector, 16 June 1984 (Fig. 2). Paratypes: 1 ♀, same locality and collector, 20 August 1982; 10 ♂♂, same locality and collector, 17, 30 April, 7 May, 11, 15, 30 June, 3, 7, 8, 20 July 1983; 1 ♀, same locality and collector, 16 July 1983; 18 ♂♂, same locality and collector, 3 March, 1, 3, 4, 7, 11, 21 April, 4, 5, 14, 15, 18, 23, 26 June, 1, 21 (2), 28 August 1984; 1 ♀, same locality and collector, 21 June 1984; 1 ♀, MTF [Mississippi Test Facility, Natl. Air and Space Admin.], Hancock Co., Mississippi, 2 July 1973, R. Kergosien; 1 ♀, Gainesville, Florida, 30 March 1929; 4 ♂♂, Archbold Biological Station, Lake Placid, Highlands Co., Florida, 29 March 1959 (♂ genitalia slide 6751, J. G. Franclemont—Figs. 16, 17), 30, 31 March, 2 April 1959, J. G. Franclemont; 1 ♀, same locality and collector, 3 April 1959; 1 ♀, The Wedge Plantation, McClellanville, South Carolina, 20 August 1968, D. C. Ferguson (Fig. 3); 3 ♀♀, same locality, 23 May, 23 June, 7 August 1971, R. B. Dominick and C. R. Edwards. All as far as known were collected at light. Holotype and allotype in U.S. National Museum of Natural History; paratypes in National Museum, Canadian National Collection, Florida State Collection at Gainesville, British Museum (Natural History), and collections of V. A. Brou, J. G. Franclemont, and Bryant Mather.

Distribution. Coastal South Carolina to Highlands County, Florida, and westward through the Gulf States to Louisiana.

Early Stages. Unknown.

Remarks. I have known of this species since I collected a specimen in 1968, and shortly afterward found a second specimen, from Gainesville, in the collection of the U. S. National Museum. Several others were soon sent by other collectors, but all were females. When I prepared an earlier draft of this paper in the 1970's and sent it to Dr. Franclemont for his comments, I learned that he had collected four males and a female in Florida in 1959. He kindly responded by sending the slide from which my illustration of the male genitalia (Figs. 16, 17) was then prepared. Then in 1982, 1983, and 1984, Vernon A. Brou, at one locality in Louisiana, collected three times as many specimens as were previously known, and these include such fresh, bright examples that I chose two of them as holotype and allotype.

***Acrionicta kendallorum* Ferguson, new species**

Diagnosis. A gray-dusted, medium-sized *Acrionicta* of rather nondescript appearance, perhaps most resembling a dark *A. sperata* Grote or *rubricoma*

Guenée, with similar wing shape and pattern but differing from these and apparently from all other North American species of the genus in having pectinate male antennae and very short, hairy palpi in both sexes. Male genitalia normal for the group and similar to those of *A. impressa* Walker, although armature of valve differently oriented, juxta differently shaped, and vesica with more and longer cornuti. Known only from a small reared lot from southwestern Chihuahua, Mexico.

Further description. Male antenna bipectinate with branches so short and closely set as to appear laminate, each lamellum about as long as thickness of shaft and orange brown; shaft scaled dorsally with black and white scales; female antenna simple; palpus of both sexes not or only slightly protruding beyond front, clothed in hairlike scales; front slightly protuberant; eye of male about average for genus, about as wide as front, that of female three-fourths as wide as front; tongue moderately developed, not large; ocellus present, small; legs heavily clothed with long scales, all spurs present; epiphysis large but not quite reaching end of foretibia.

Thorax and abdomen gray, resulting from mixture of dark-gray and white scales; front and vertex gray, with thin white margin adjacent to eye; dark mask that passes from palpi back through eye in many *Acronicta* species only vaguely apparent, not contrasting; legs gray, tarsi dark with white ring marking end of each segment.

Upperside of forewing with an almost equal mixture of white and blackish scales and with usual pattern of antemedial and postmedial bands and orbicular and reniform spots present but not very distinct; dark scales in these elements of pattern seen to be symmetrically aligned in transverse rows under magnification; costa with about eight small black spots that indicate otherwise largely obsolescent transverse lines or bands of forewing pattern; black and white checkered fringe preceded by weak, discontinuous, dark terminal line. Hindwing pale gray, nearly white, with slight dusting of darker gray-brown scales toward outer margin, especially along veins; a weak, dark terminal line; and white, unmarked fringes. Underside of wings almost unmarked; forewing light grayish with very diffuse, gray reniform; hindwing nearly white. Length of forewing: holotype ♂, 15 mm; other ♂♂, 14, 15 mm; allotype ♀, 16 mm.

Male genitalia. As illustrated (Figs. 20, 21).

Female genitalia. Not dissected.

Types. Holotype ♂, Creel, ca. 2134 m (7000 ft.), Chihuahua, Mexico, reared 10 April 1979 from larva on "*Froelichia arizonica* Thornber" (Amaranthaceae), Roy O. and C. A. Kendall (Fig. 4). Allotype ♀, same data but emerged 30 May 1979 (Fig. 6). Paratypes: 2 ♂♂, same data but emerged 7 May and 27 June 1979; 2 last-instar larvae in alcohol, same data but preserved 21 Sept. 1978. Holotype, allotype, and paratype larvae deposited in collection of U.S. National Museum of Natural History; paratypes returned to R. O. Kendall.

The exact type locality is about halfway up a small hill adjacent to the Motel Parador de La Montana. Creel is about 177 km (110 mi.) southwest of the city of Chihuahua in the region of the Sierra Tarahumara, and north of Copper Canyon and Urique Canyon.

Distribution. Known only from the type locality.

Early stages. Type material was reared from larvae collected from a plant tentatively identified by R. O. Kendall as *Froelichia arizonica* Thornber (Amaranthaceae). Many larvae were present, some of them feeding on another, still unidentified plant that had long, succulent stems and peltate leaves. Only a

few were kept for rearing because an acceptable substitute food could not be found. Twenty-five larvae were preserved (R. O. Kendall, pers. comm., 1985). Larvae that matured and pupated in late September produced adults the next spring, following a pupal diapause.

The larva (Fig. 15) is of a type that seems to place it in that section of the genus that includes *impressa* Walker and *perdita*, *noctivaga*, and *sperata* of Grote, but is conspicuously adorned with large, pale verrucae, contrasting boldly with the very dark integument. It also has a wide but segmentally interrupted and somewhat sinuous, lateral (subspiracular) band. The pale markings may have been white or yellow in life. The head and thoracic legs are nearly black, and the dark-brown body integument has a finely granulate texture. The verrucae bear numerous long, whitish, barbed hairs, and centrally, from the dorsal verrucae especially, arise one to four erect, blackish, barbed spines, almost as long as the whitish hairs. Length of two larval paratypes: 33, 47 mm.

Remarks. I am pleased to name this species for its collectors, Roy O. and Connie A. Kendall, through whose efforts not only the adult but also the larva and food plant have been made known to us.

***Acronicta perblanda* Ferguson, new species**

Diagnosis. This is a small, delicate, light-gray species easily recognized by the straight black streak that runs often without interruption from the base to near the tornus of the forewing. The genitalia are distinctive, and there is a question as to whether it is a true *Acronicta*; but the pattern, including the black markings of the head and legs, are typical of the *lobeliae-laetific-interrupta* group. *A. perblanda* would look very much like a diminutive *lobeliae* were it not for the absence of the black dash associated with the reniform spot and the exaggerated length of the basal and tornal dashes that may unite them as one continuous streak. The species is southeastern and rare in collections. Circumstantial evidence from collecting sites suggests an association with bald cypress or with some plant that grows in cypress swamps.

Further description. Antenna filiform, minutely ciliate beneath, that of male about as stout as longest tarsal segment, that of female much more slender than longest tarsal segment, both with mixture of white and gray scales dorsally; palpi of both sexes quite long, exceeding front by one-third their length, black with whitish scales ventrally on proximal half, at tip, and a few on inner surfaces; distal palpal segment small but visible; front somewhat protuberant, clothed in white scales with a few gray ones mixed in, except that scales of lower lateral corners, near palpus, are black; black areas of palpus, front, and tegula, together with eye, forming a unified band that creates a masked effect in usual manner of many *Acronicta* species; thorax and abdomen gray, clothed with mixture of gray and whitish scales; tegula margined laterally with black scales; short, black, middorsal streak just behind head, between patagia; scales on top of head, between and behind bases of antennae, white; broad border of black scales adjacent to eyes posteriorly; legs whitish with mixture of gray scales, except mid- and hindtibiae, which are marked with a very distinctive, heavy, full-length black streak on outer side; inner (dorsal) tibial spur of each pair at least twice as long as outer one.

Forewing somewhat elongated, about same shape as that of *A. lobeliae* but much smaller; ground color of upperside pale gray, resulting from mixture of white and light gray-brown scales, all markings black; most conspicuous

marking is long streak from base to point on outer margin just anterior to tornus; basal and tornal (anal) black dashes characteristic of such species as *lobeliae* and *interrupta* are longer in *perblanda*, being thinly joined across median space or nearly so, thus forming what usually appears as a continuous streak; smaller black dash in space between Cu_2 and 2nd A, immediately behind constricted or interrupted mid-zone of long streak, although this may be obsolescent; a few black scales along inner margin posterior to lesser dash; basal, antemedial, and what is probably postmedial line clearly outlined with black scales toward costa; basal line short, curved, much as in *A. interrupta*; antemedial and postmedial lines, if apparent, sharply inclined outwardly from costa, then acutely angled back toward base at radius, thus forming long indentations at those points; antemedial continuing posteriorly to form rounded lobe inwardly and lesser, blunted tooth outwardly before reaching large longitudinal streak; short dashes usually present at outer margin in folds between M_1 and M_2 , and Cu_1 and Cu_2 , and shorter ones in spaces between other veins, giving fringes a checkered appearance; dark discal spots hardly apparent. Black scales that form markings of forewing overlapped and offset, not arranged in straight rows that give ridged or striated effect characteristic of other species of *Acrionicta* with similar markings. Hindwing dull grayish brown with whitish, faintly checkered fringes. Underside of forewing brownish, of hindwing light gray, with faint, very diffuse postmedial bands; hindwing with diffuse discal spot. Length of forewing: holotype ♀, 12.0 mm; other ♀♀, 13.0 mm; allotype ♂, 11.0 mm; other ♂♂, 10.5-12.0 mm.

Male genitalia. As shown (Figs. 18, 19). Everted vesica may be seen to have 10 long, very slender cornuti and numerous short ones.

Female genitalia. As shown (Fig. 30). Ductus bursae as long as corpus bursae, nearly cylindrical, somewhat rugose, sclerotized, rigid.

Types. Holotype ♀, McClellanville, South Carolina [Wedge Plantation], 20 April 1970, R. B. Dominick and Charles R. Edwards; USNM Genitalia Slide No. 52,174 (Fig. 7). Allotype ♂, same locality and collectors, 25 April 1973 (Fig. 8). Paratypes: 1 ♂, Hilliard [Nassau County], Florida, "4-2-46," F. H. Chermock; 1 ♂, Gainesville, Florida, 13 April 1963, blacklight trap, H. A. Denmark; 1 ♂, Jct. State Highway 101 and 181, Cartaret County, North Carolina, 30 April 1974, J. Bolling Sullivan (Fig. 9); 1 ♂, Edgard, St. John Parish, Louisiana, 13 April 1979, V. A. Brou; 1 ♀, same locality and collector, 30 March 1982; 2 ♂♂, 4.2 mi. NE of Abita Springs, St. Tammany Parish, Louisiana, 24 April 1983, 22 April 1984, V. A. Brou; 1 ♀, same locality and collector, 7 April 1984; 1 ♂, cypress-tupelo swamp with associated southeastern flora, Otter Slough Wildlife Area, Stoddard Co., Missouri, 28 May 1983, at blacklight, J. R. Heitzman (Fig. 10).

The holotype and allotype, which are deposited in the U.S. National Museum of Natural History, were taken in a light trap at the edge of the Santee Delta, on the south bank of the Santee River. Paratypes are in the Canadian National Collection, the Florida State Collection of Arthropods at Gainesville, and in the collections of V. A. Brou, Abita Springs, Louisiana, J. R. Heitzman, Independence, Missouri, and J. B. Sullivan, Beaufort, North Carolina.

Distribution. In cypress swamp areas from Cartaret County, just south of Cape Hatteras, North Carolina, and Stoddard County, Missouri, to northern Florida and southern Louisiana.

Early stages. Unknown. However, the occurrence of adults almost entirely in April (one taken in Louisiana on 30 March and one in Missouri on 28 May) indicates that the species is univoltine and probably overwinters as a pupa. The

localities all appear to have been in the vicinity of bald cypress, *Taxodium distichum* (L.) Rich.

Remarks. The female and to a lesser degree the male genitalia show such obvious similarities to those of *Acrionicta ybasis* Dyar (1918: 345), a Mexican species, that the relationship must be close. Both have the wide, sclerotized, regularly cylindrical ductus bursae. The size, wing shape, and slender build are also similar, but the forewing pattern is different, *ybasis* having a distinct reniform and orbicular, and short basal and anal dashes only.

The correct taxonomic disposition of this species is not likely to be made without much more comprehensive revisionary study. But meanwhile, for purposes of collection arrangement, I would simply add it to the end of the list of North American *Acrionicta* species, inasmuch as there seems to be nothing closely comparable except the Mexican *A. ybasis*.

J. G. Franclement suggested to me that the moth listed from Florida as a *Catabena* species by Kimball (1965: 104) is probably the same as *A. perblanda*. The specimens were supposed to be in the Los Angeles County Museum of Natural History but cannot now be found.

Cryphia cyanympha Ferguson, new species

Diagnosis. This is a small, green, recently discovered noctuid known from South Carolina, northern Florida, and eastern Texas. Its predominantly blue-green forewing might lead to confusion with *Cyathissa percara* (Morrison), an unrelated species of similar size and coloring that also occurs in the Southeast; but on closer inspection it is easily seen that the forewing pattern is different. The pattern and male genitalia are characteristic, and the illustrations should make identification simple. This moth belongs to a group of three or four closely related species that occur on islands of the Caribbean, at least on Cuba, Hispaniola and Puerto Rico, and of which only one seems to have been described (see remarks). The closest known species in the continental United States may be the southwestern *Cryphia viridata* (Harvey) (Figs. 23, 24).

Further description. Male antenna heavily ciliate, with setae about as long as width of shaft; female antenna slender, with short setae; shaft in both sexes with alternating transverse bands of light and dark scales dorsally. Head, scape, and thorax with light-green to whitish scales, patagia black tipped; front smooth, almost square; palpi of both sexes fairly long, nearly reaching top of front, blackish with third segment white; ocelli very small, inconspicuous; tongue moderately but not highly developed. Legs fairly short, rough-scaled, with long spurs, irregularly blotched and banded with dark-brown and whitish scales. Abdomen light gray brown, concolorous with upperside of hindwings, with admixture of black scales beneath.

Upperside of forewing light bluish green with black and white markings as follows: basal line black, prominent between costa and radius, otherwise obsolete except for triangular projection on cubitus and a few black scales near inner margin; antemedial and postmedial bands black, bordered with white, the former white on inner side, the latter on outer side; inner white border one or two scales wide, outer white border two or three scales wide; antemedial band evenly excurved, reflexed outwardly at 2nd anal; black part of antemedial band widening greatly at costa, less so at inner margin, with a broad rectangular

process extending outwardly as a black bar to end of cell, which is two-thirds distance to postmedial band, this being followed posteriorly by some black scales forming a second, less definite, rectangular configuration adjacent to the other but less than half its length; postmedial line missing near costa, thence sinuous, excurved at M_1 and at 2nd A, incurved about M_3 , inclined outwardly and somewhat expanded at inner margin where its black scales closely approach those of antemedial band; black triangular spot at costa opposite end of discal bar, this probably being remnant of medial band otherwise wanting in this species; postmedial third of forewing with scattered black scales, especially in middle area near outer margin and near costa, probably representing fragmentary submarginal band; black scales at outer margin form a weak terminal line, preceded by border of white scales; fringes rather long, comprised of black-tipped gray scales, with vague greenish rays opposite ends of R_5 , M_2 , and M_3 ; costa margined with a few black scales between basal and antemedial bands, and with three small black patches in distal third, the first being opposite postmedial band and probably marking point at which it meets costa. Hindwing grayish brown, unmarked, thinly scaled, becoming slightly paler basally, and with proximal tier of fringe scales concolorous, outer tier whitish. Underside of forewing grayish brown, almost unmarked; basal two-thirds of costa dark, outer third with three dark spots separated by areas of whitish scales; outer margin with dark terminal line and moderately large, subcircular, light-greenish spot at apex; discal spot faint. Underside of hindwing an even mosaic of white and blackish-brown scales, except that there are fewer dark scales in space between cubitus and third anal vein; outer margin with dark terminal line, somewhat interrupted at vein endings and fading out toward inner angle. Length of forewing: holotype, 8 mm; other ♂♂, 7-8 mm; ♀♀, 7-8 mm.

Male genitalia. As figured (Figs. 27, 28). Similar to those of *Cryphia viridata* (Figs. 23, 24) but with simpler clasper, no transtilla, various differences in shape of other components, and very large cornutus on vesica, plus a closely set, seemingly deciduous clump of much smaller cornuti. Although moth looks more like *jucundella*, it seems no closer in genital characters to that species (Figs. 25, 26) than to *viridata*.

Female genitalia. Of a generalized type that could be acronictine or almost anything, but with good species characters. Although genitalia of female holotype of *C. huastea* Schaus were badly mutilated by whoever dissected them, making comparison of *cyanympa* with that species difficult, it appears that *cyanympa* has a funnel-like ostium only about half as large, a heavily sclerotized elbow in the ductus bursae lacking in *huastea*, a corpus bursae without numerous spicules that may be seen in *huastea*, and two very delicate signa, which together would equal no more than half the size of the one invaginated, cuplike, spiculate signum of *huastea*. Bursa of *huastea* either bilobate or distorted in such a way as to appear so. Bursa of *cyanympa* entire. Female genitalia of *C. viridata* also have funnel-shaped ostium but of different shape; otherwise simple, offering little basis for comparison, having simple, membranous, slightly elongated bursa copulatrix without either spicules or signa; ductus bursae shaped much like that of *cyanympa* but entirely membranous.

Types. Holotype ♂, University of Florida Preserve, Welaka, Putnam County, Florida, 24 March 1987, D. C. Ferguson (Fig. 12). Paratypes: 67 ♂♂, same locality and collector, 24, 25, 28 March 1987; 16 ♂♂, same locality, site 4, live

oak xeric hammock, 9-10 June 1986, J. B. Heppner and J. Powell; 89 ♂♂, same locality, some labelled Site 4 as above, others Site 5, slash pine-palmetto flatwoods, 17-21 March 1986, J. B. Heppner; 1 ♂, Gainesville, Alachua Co., Florida, 3 Oct. 1983, E. C. Knudson; 2 ♀♀, Withlacoochee State Forest, vic. Kirk Hill, Hernando Co., Florida, 6 Sept. 1986, L. C. Dow; 1 ♀, Rock Spgs., Kelly Park, 6 mi. N. of Apopka, Orange Co., Florida, 18 Feb. 1984, L. C. Dow; 1 ♂, McClellanville [Wedge Plantation], South Carolina, 12 May 1970, R. B. Dominick and C. R. Edwards; 1 ♀ (Fig. 11), same locality and collectors, 26 Apr. 1970 (Fig. 11); 2 ♂♂, New Waverly, Texas, 14 June 1964, A. & M. E. Blanchard; 2 ♂♂, Town Bluff (Dam B), Tyler Co., Texas, 15 Sept. 1975. Holotype and many paratypes in U.S. National Museum; others in Florida State Collection, Gainesville, and in the collections of E. C. Knudson, H. D. Baggett, and L. C. Dow. Paratypes will be distributed to other collections.

Distribution. Charleston Co., South Carolina; Alachua, Putnam, Orange, and Hernando counties, Florida; Tyler Co., Texas.

Early stages. Unknown, but the closely related *C. jucundella* (Dyar) from Puerto Rico is evidently a lichen feeder. In the original description Dyar (1922: 11) wrote: "Mr. Wolcott states that the larvae fed on lichens, being of the same color as the lichen, marked with brown, a beautiful example of protective resemblance." The type of *jucundella* (Fig. 13) is a small, bright (although somewhat damaged) specimen that looks as though it could have been reared, and pinned beside it in the drawer where it was originally placed by Dyar was a sample of a lichen, but without explanatory labels. The lichen was identified for me by Mason Hale, Department of Botany, National Museum of Natural History, as a species of the *Usnea longissima* group. Many lichens, including a similar *Usnea* species, occur conspicuously on the trunks and branches of trees at the type locality of *cyanympa*.

Remarks. The closest known relatives of *Cryphea cyanympa* are small, green species that have been collected in Cuba, the Dominican Republic and Puerto Rico. One of these is *Agriopodes jucundella* Dyar (1922: 10) (= *Cryphia jucundella* (Dyar), new combination) (Figs. 13, 25, 26) from Puerto Rico. *Bryolymnia huastea* Schaus (1940: 203) (Fig. 14), also from Puerto Rico, is almost certainly a junior synonym of *jucundella* and was misplaced in *Bryolymnia*. The type species of *Bryolymnia*, *Dacira roma* Druce of Mexico and Central America, is a larger, stouter moth with a well-developed corona and an incipient cucullus in the male genitalia, unlike species of *Cryphia* and other genera now placed in the Acronictinae. Although the holotypes of *jucundella* and *huastea* are both before me and appear conspecific, the former is a male and the latter a female, so that their genitalia cannot be compared. Two other similar species, apparently both undescribed, are represented by specimens in the U.S. National Museum from the Greater Antilles. One male from Cuba appears identical to *cyanympa* except that the valve lacks the clasper entirely.

Within the continental United States, *Cryphia cyanympa* is a distinctive, easily recognized species, but I illustrate for comparison and to support the generic placement the male genitalia of *C. viridata* and *C. jucundella*, as well as those of the type species of *Agriopodes*, *A. fallax*, which may be seen to differ conspicuously in the form of the juxta, valve, and aedeagus. A colored illustration of *fallax* was given by Covell (1984: pl. 26, fig 16).

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Literature Cited

- COVELL C.V. JR. 1984. A Field Guide to the Moths of Eastern North America. Houghton Mifflin Co., Boston. 496 pp., 64 pls., 76 text figs.
- DYAR, H.G., 1918. Descriptions of new Lepidoptera from Mexico. Proc. U. S. Natl. Mus. 54:335-372.
- DYAR, H. G., 1922. New American moths and notes. Insecutor Inscitiae Menstruus 10:8-18.
- HODGES, R. W., ET AL. 1983. Check list of the Lepidoptera of America north of Mexico. E. W. Classey Ltd. and The Wedge Entomological Research Foundation, London. xxiv + 284 pp.
- INOUE, H., S. SUGI, H. KUROKO, S. MORIUTI & A. KAWABE, 1982. Moths of Japan. Kodansha Co. Ltd., Tokyo. Vol. 1: 966 pp.; vol. 2: 552 pp., 392 pls.
- KIMBALL, C. P., 1965. Lepidoptera of Florida. Arthropods of Florida and neighboring land areas, vol. 1. Div. of Plant Industry, Florida Dept. Agric., Gainesville. 365 pp., 26 pls.
- SCHAUS, W., 1940. Scientific survey of Porto [sic] Rico and the Virgin Islands 12(2): 175-290. New York Acad. Sci.

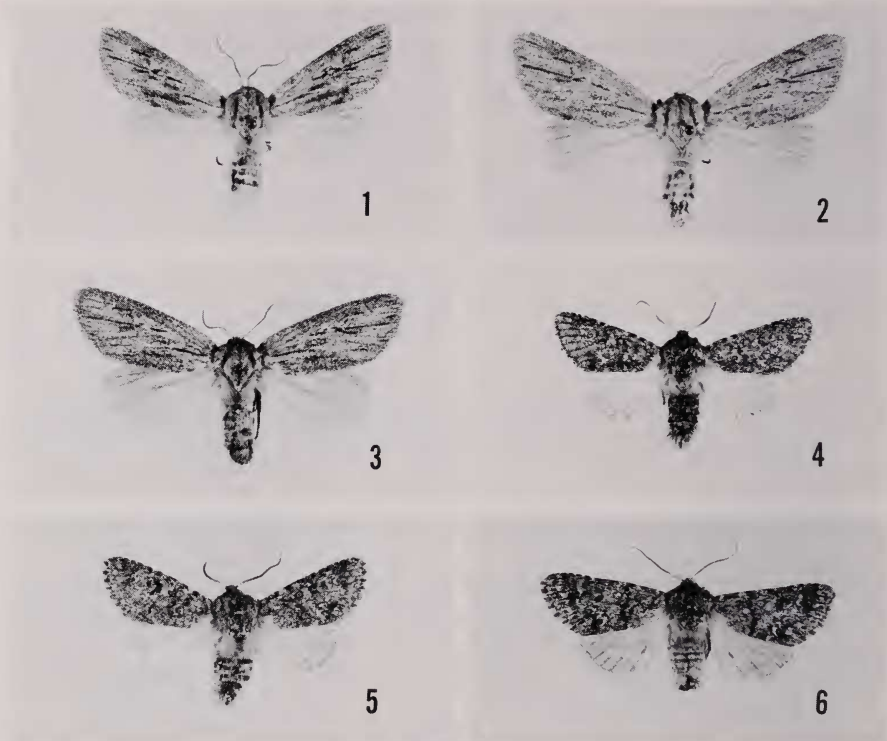


Fig. 1-6. New Species of *Acronicta*. 1, *A. sinescripta*, holotype; 2, *A. sinescripta*, allotype; 3, *A. sinescripta*, ♀ paratype, Wedge Plantation, McClellanville, S. C., 20 Aug. 1968, D. C. Ferguson; 4, *A. kendallorum*, holotype; 5, *A. kendallorum*, ♂ paratype, same data as for holotype but emerged 27 June 1979; 6, *A. kendallorum*, allotype. About natural size.



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Figs. 7-14. *Acronicta* and *Cryphia* species. 7, *A. perblanda*, holotype; 8, *A. perblanda*, allotype; 9, *A. perblanda*, ♂ paratype, Cartaret County, N. C., 30 Apr. 1974, J. B. Sullivan; 10, *A. perblanda*, ♂ paratype, Otter Slough Wildlife Area, Stoddard County, Mo., 28 May 1983, J. R. Heitzman; 11, *C. cyanympha*, paratype ♀, McClellanville, S. C., 26 Apr. 1970, R. B. Dominick & C. R. Edwards; 12, *C. cyanympha*, holotype; 13, *C. jucundella*, holotype, Puerto Rico; 14, *C. huastea*, holotype, Puerto Rico. About twice natural size.

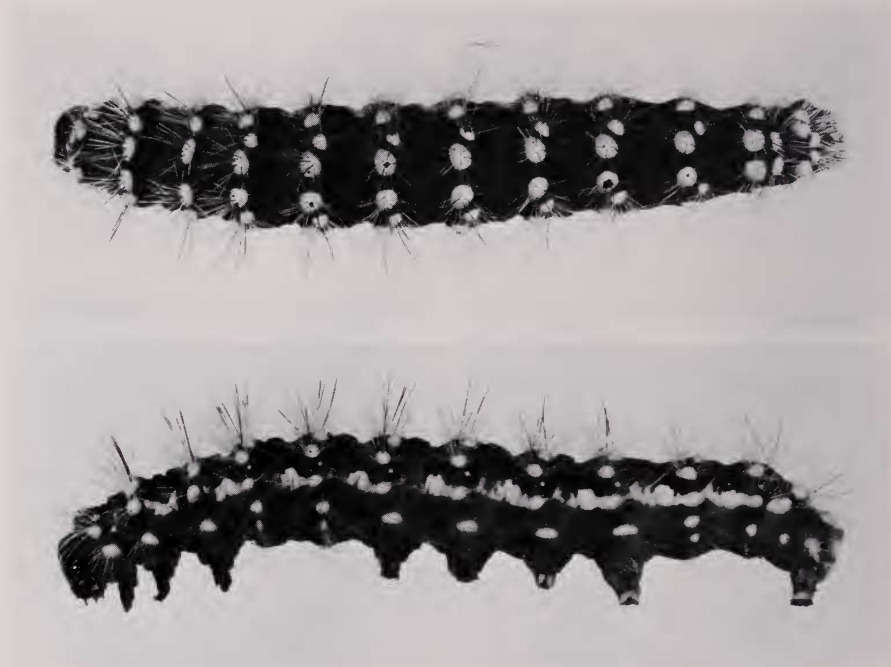
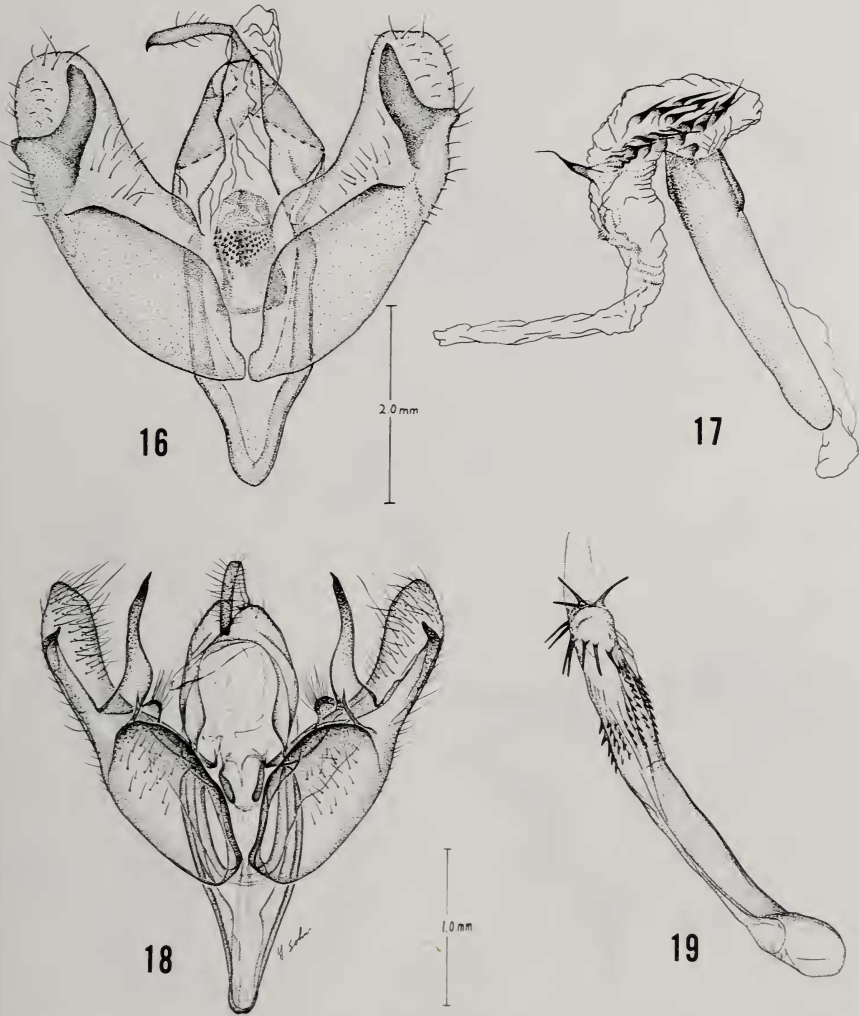
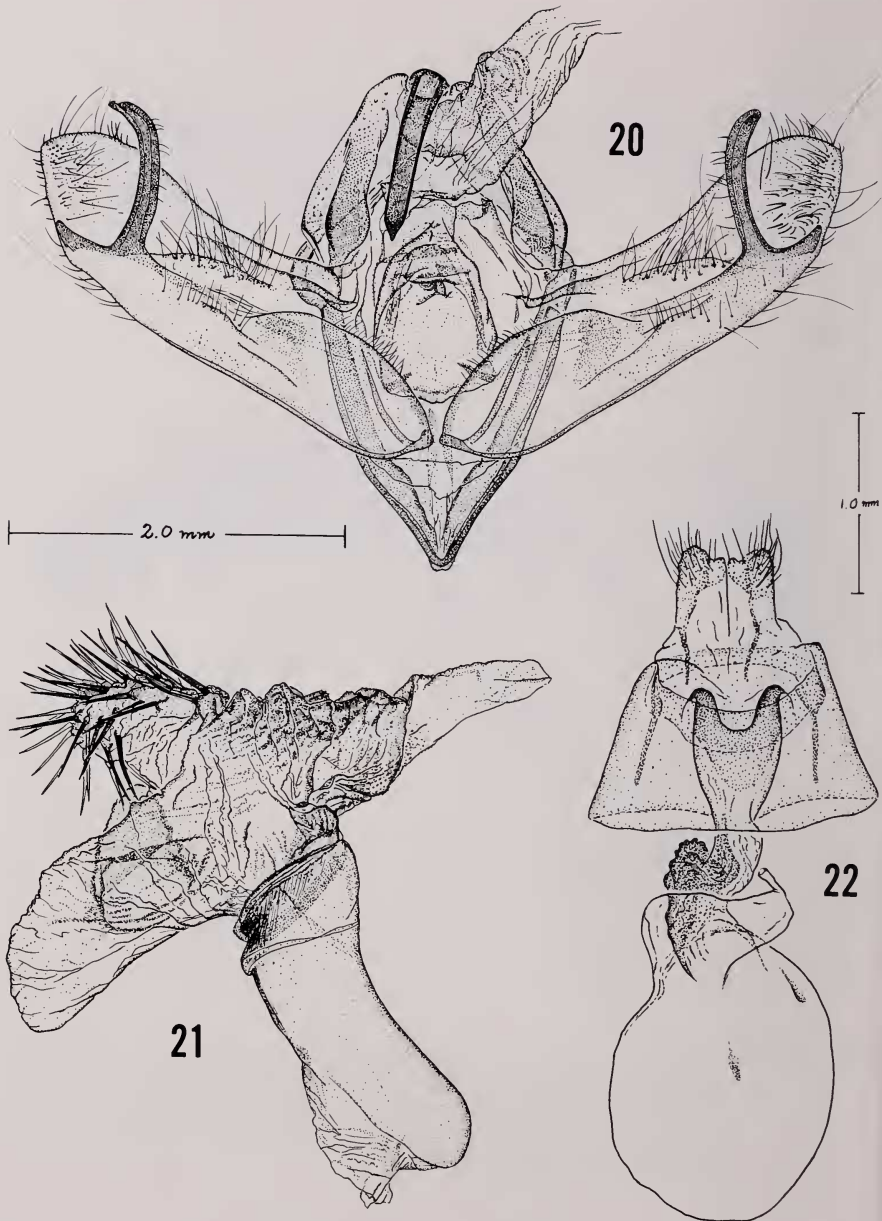


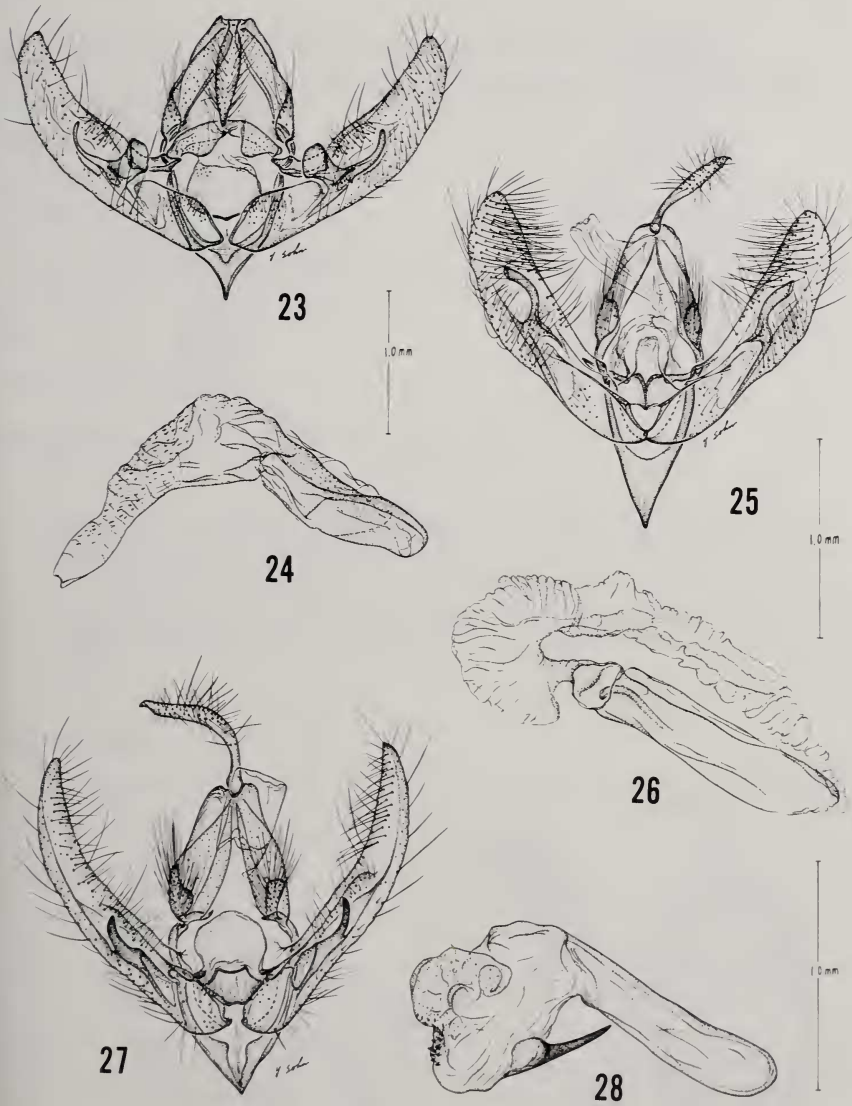
Fig. 15. *Acronicta kendallorum*, paratype larva (preserved in alcohol). Dorsal and lateral views.



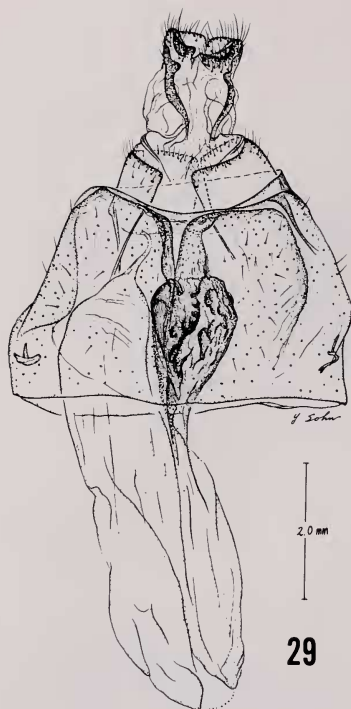
Figs. 16-19. *Acronicta* species, ♂ genitalia. 16, *A. sinescripta*, ♂ paratype, Highlands County, Florida, J. G. Franclemont slide No. 6751; 17, aedeagus of same specimen; 18, *A. perblanda*, ♂ paratype, Hilliard, Florida, D. C. Ferguson slide No. 1494 (Canadian Natl. Coll.); 19, aedeagus of same specimen.



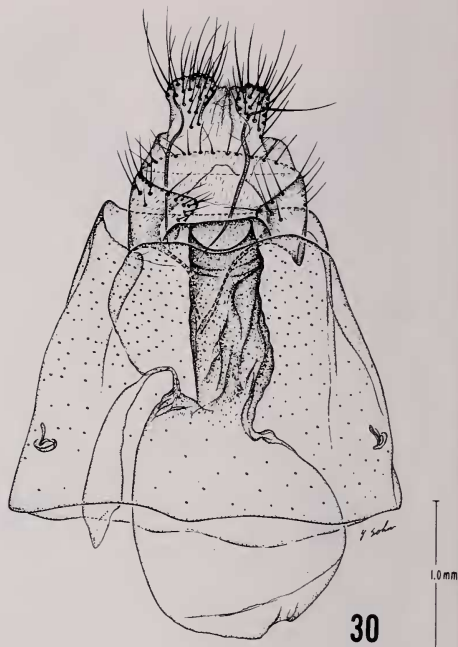
Figs. 20-22. *Acronicta kendallorum* and *Cryphia cyanympha*, genitalia. 20, *A. kendallorum*, holotype, main part of ♂ genitalia. 21, aedeagus of same specimen. 22, *Cryphia cyanympha*, ♀ genitalia of paratype shown in Fig. 11.



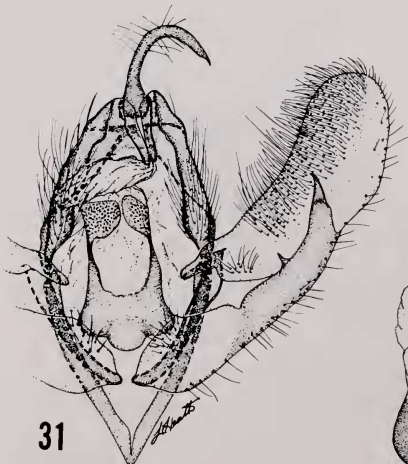
Figs. 23-28. *Cryphia* species, male genitalia. 23, *C. viridata*, San Diego, California, USNM slide 52,177; 24, aedeagus of same specimen; 25, *C. jucundella*, holotype; 26, aedeagus of same specimen; 27, *C. cyanympha*, paratype, McClellanville, S. C., USNM slide 52,101; 28, aedeagus of same specimen.



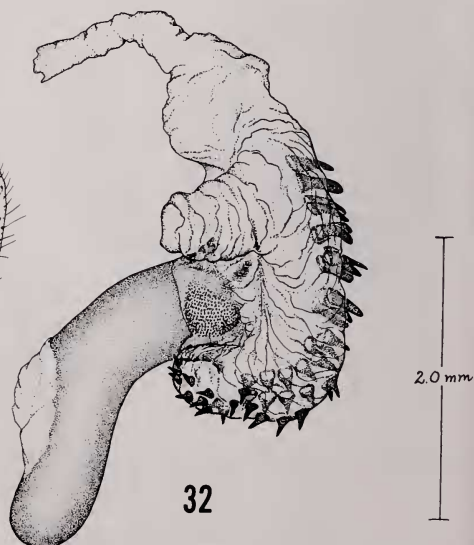
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Figs. 29-32. *Acronicta* species, ♀ genitalia, and *Agriopodes fallax*, ♂ genitalia. 29, *A. sinescripta*, paratype, Gainesville, Florida, USNM slide 52,116; 30, *A. perblanda*, holotype; 31, *A. fallax*, Halifax County, Nova Scotia, USNM slide 52,106; 32, aedeagus of same specimen.